



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,051	06/24/2003	Stephen B. Segall	2115-002431	1890
27572	7590	03/28/2005	EXAMINER	
HARNES, DICKEY & PIERCE, P.L.C.			STAFIRA, MICHAEL PATRICK	
P.O. BOX 828			ART UNIT	
BLOOMFIELD HILLS, MI 48303			PAPER NUMBER	
			2877	

DATE MAILED: 03/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/603,051

Applicant(s)

SEGALL ET AL.

Examiner

Michael P. Stafira

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 27-29 is/are allowed.
- 6) ☒ Claim(s) 1-3, 22, 30 and 31 is/are rejected.
- 7) ☐ Claim(s) 4-21, 23-26, 32 and 33 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/12/03.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

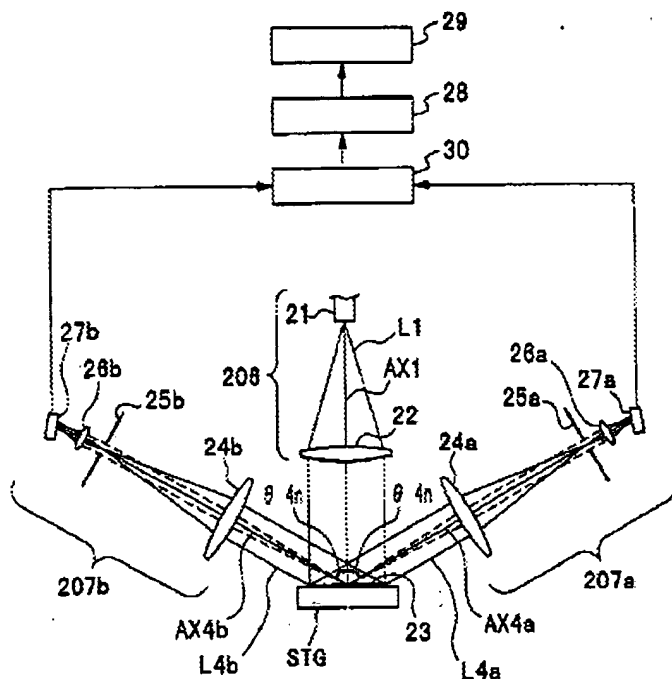
2. Claims 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Komatsu et al. ('578).

Claim 1

Komatsu et al. ('578) discloses a laser Fig. 12, Ref. 21) directing a laser beam perpendicularly to the machined surface (Fig. 12, Ref. 23)(It is the examiner's position that wafers undergo Chemical Mechanical Polishing or CMP and is therefore considered a machined surface); an optical detector (Fig. 12, Ref. 27a, 27b) positioned at an angle to the laser beam to detect scattered laser light from the surface (Col. 7, lines 48-55); a computer (Fig. 12, Ref. 29) system including software that compares the detected scattered light to a scattered light signature

Art Unit: 2877

from a first-type finishing mark (foreign matter on surface measurement) and to a scattered light signature from a second-type finishing mark (defect free substrate) and determines a condition of the surface finish (Col. 17, lines 7-12).



Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komatsu et al. ('578).

Claims 2, 3

Komatsu et al. ('578) discloses the claimed invention except for the optical detector is

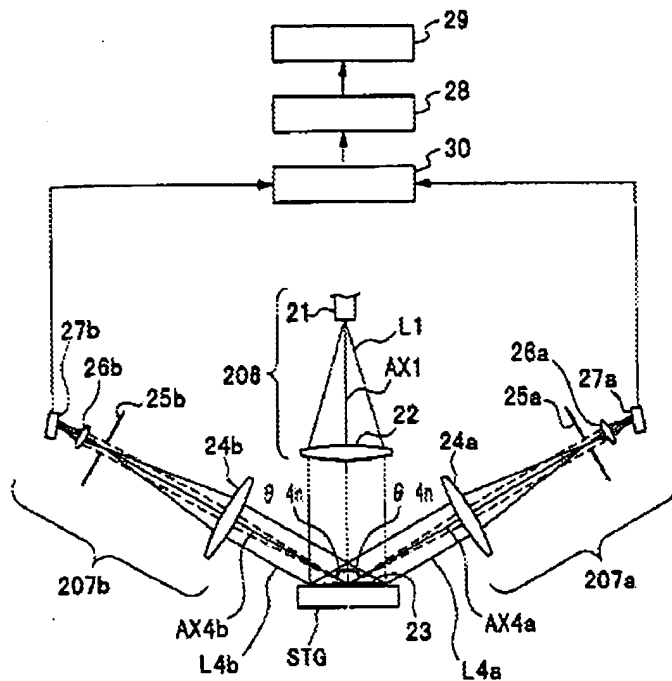
Art Unit: 2877

photodiode or a line-scan detector. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine Komatsu et al. ('578) with the photodiode or line-scan detector since it was well known in the art that using different types of photodetection devices changes the sensitivity of the measurement, therefore reducing the cost of the optical device depending on the type of sensitivity desired.

5. Claims 22 is rejected under 35 U.S.C. 102(e) as being anticipated by Komatsu et al. ('578).

Claim 22

Komatsu et al. ('578) discloses directing a laser beam (Fig. 12, Ref. 21) perpendicularly to the machined surface (Fig. 12, Ref. 23); detecting (Fig. 12, Ref. 27a, 27b) a scattered laser beam light from the machined surface (Col. 7, lines 48-55); determining a signature of the detected scattered laser beam light (Col. 17, lines 1-13); and determining a condition of the machined surface from the signature (Col. 17, lines 1-13).

**Claim 30**

Komatsu et al. ('578) discloses a laser (Fig. 12, Ref. 21) directing a laser beam perpendicularly to the machined surface (Fig. 12, Ref. 23); a detector (Fig. 12, Ref. 27a, 27b) positioned at an angle to the laser beam to detect scattered laser light from the surface (Col. 7, lines 48-55); a computer system (Fig. 12, Ref. 29) including software that compares the detected scattered light to a scattered light signature from a first-type finishing mark and determines whether the first-type finishing mark is present (defects) (Col. 17, lines 7-12).

Claim 31

Komatsu et al. ('578) further discloses a laser (Fig. 12, Ref. 21) directing a laser beam perpendicularly to the manufactured surface (Fig. 12, Ref. 23); an optical detector (Fig. 12, Ref. 27a, 27b) positioned at an angle to the laser beam to detect scattered laser light from the surface (Col. 7, lines 48-55); a computer system (fig. 12, Ref. 29) including software that compares the

Art Unit: 2877

detected scattered light to a scattered light signature (measured defects) from a first-type finishing mark and to a scattered light signature from a second-type finishing mark (defect free substrate) and determines a condition of the surface finish (Col. 17, lines 7-12).

Allowable Subject Matter

6. Claims 27-29 are allowed over the prior art of record.

7. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 27, the prior art fails to disclose or make obvious a reconfigurable inspection apparatus for inspecting the surface finish of a plurality of machined surfaces in a part, the inspection apparatus having a reconfigurable multi-spindle apparatus having a plurality of spindles; a plurality of inspection probes rotatably and movably supported on corresponding spindles, each inspection probe comprising, and in combination with the other recited limitations of claim 27. Claims 28-29 are allowed by the virtue of dependency on the allowed claim 27.

8. Claims 4-21, 23-26, 32, 33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P. Stafira whose telephone number is 571-272-2430. The examiner can normally be reached on 4/10 Schedule Mon.-Thurs..

Art Unit: 2877

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Toatley can be reached on 571-272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael P. Stafira
Primary Examiner
Art Unit 2877

March 15, 2005